ABSTRACT OF THE DISCLOSURE

[000175] The invention relates to the production of enzymatically active recombinant human and animal lysosomal enzymes involving construction and expression of recombinant expression constructs comprising coding sequences of human or animal lysosomal enzymes in a plant expression system. The plant expression system provides for post-translational modification and processing to produce a recombinant gene product exhibiting enzymatic activity. The invention is demonstrated by working examples in which transgenic tobacco plants express recombinant expression constructs comprising human glucocerebrosidase nucleotide sequences. The invention is also demonstrated by working examples in which transfected tobacco plants express recombinant viral expression constructs comprising human α galactosidase nucleotide sequences. The recombinant lysosomal enzymes produced in accordance with the invention may be used for a variety of purposes, including but not limited to enzyme replacement therapy for the therapeutic treatment of human and animal lysosomal storage diseases.